

HW 4.2.1.a: Evaluating Trigonometric Expressions

Evaluate the following trigonometric expressions by using the unit circle. Answers should be exact and rationalized.

Quadrant I

1.) $\cos \frac{\pi}{3} =$

2.) $\sin \frac{\pi}{2} =$

3.) $\tan \frac{\pi}{4} =$

4.) $\sin \frac{\pi}{6} =$

5.) $\sec \frac{\pi}{6} =$

6.) $\csc \frac{\pi}{4} =$

7.) $\cot 0 =$

8.) $\sin \frac{\pi}{3} =$

9.) $\cos \frac{\pi}{6} =$

10.) $\tan \frac{\pi}{3} =$

11.) $\csc \frac{\pi}{6} =$

12.) $\cos \frac{\pi}{2} =$

Quadrant II

13.) $\cos \frac{3\pi}{4} =$

14.) $\tan \frac{5\pi}{6} =$

15.) $\sin \pi =$

16.) $\sec \frac{\pi}{2} =$

17.) $\csc \frac{2\pi}{3} =$

18.) $\sec \frac{2\pi}{3} =$

19.) $\cos \frac{5\pi}{6} =$

20.) $\cot \frac{3\pi}{4} =$

21.) $\cos \pi =$

22.) $\tan \frac{2\pi}{3} =$

23.) $\sin \frac{2\pi}{3} =$

24.) $\sec \frac{3\pi}{4} =$

Quadrant III

25.) $\sin \frac{3\pi}{2} =$

26.) $\cos \frac{7\pi}{6} =$

27.) $\tan \frac{4\pi}{3} =$

28.) $\csc \frac{7\pi}{6} =$

29.) $\cot \frac{5\pi}{4} =$

30.) $\sec \frac{5\pi}{4} =$

31.) $\sec \frac{3\pi}{2} =$

32.) $\sin \frac{4\pi}{3} =$

$$33.) \cos \frac{4\pi}{3} =$$

$$34.) \tan \frac{7\pi}{6} =$$

$$35.) \sin \frac{5\pi}{4} =$$

$$36.) \csc \pi =$$

Quadrant IV

$$37.) \sin \frac{11\pi}{6} =$$

$$38.) \cos 2\pi =$$

$$39.) \tan \frac{5\pi}{3} =$$

$$40.) \cot \frac{3\pi}{2} =$$

$$41.) \sec \frac{11\pi}{6} =$$

$$42.) \csc \frac{7\pi}{4} =$$

$$43.) \cos \frac{5\pi}{3} =$$

$$44.) \sin \frac{5\pi}{3} =$$

$$45.) \tan \frac{11\pi}{6} =$$

$$46.) \sec \frac{5\pi}{3} =$$

$$47.) \cot \frac{7\pi}{4} =$$

$$48.) \sin 2\pi =$$

Entire Unit Circle

$$49.) \sin \frac{7\pi}{6} =$$

$$50.) \sin \frac{\pi}{2} =$$

$$51.) \sin \frac{5\pi}{3} =$$

$$52.) \sin \frac{3\pi}{4} =$$

$$53.) \cos \frac{5\pi}{6} =$$

$$54.) \cos \frac{7\pi}{4} =$$

$$55.) \cos \frac{4\pi}{3} =$$

$$56.) \cos \pi =$$

$$57.) \tan \frac{\pi}{6} =$$

$$58.) \tan \frac{3\pi}{4} =$$

$$59.) \tan \frac{3\pi}{2} =$$

$$60.) \tan \frac{5\pi}{3} =$$

$$61.) \csc \frac{\pi}{3} =$$

$$62.) \csc \frac{5\pi}{4} =$$

$$63.) \csc \frac{3\pi}{2} =$$

$$64.) \csc \frac{5\pi}{6} =$$

$$65.) \sec \frac{\pi}{3} =$$

$$66.) \sec \frac{3\pi}{4} =$$

$$67.) \sec \pi =$$

$$68.) \sec \frac{11\pi}{6} =$$

$$69.) \cot \frac{\pi}{6} =$$

$$70.) \cot \frac{5\pi}{4} =$$

$$71.) \cot \frac{2\pi}{3} =$$

$$72.) \cot 2\pi =$$